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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,292	12/11/2001	Alistair Mill	30004036US02	3143

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EXAMINER
PERILLA, JASON M

ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	10/014,292	MILL, ALISTAIR
Office Action Summary	Examiner	Art Unit	
	Jason M Perilla	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _11 December 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-10_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-6 and 8-10_ is/are rejected.

7)☒ Claim(s) _7_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *   c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _12/01 7/04_.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-10 are pending in the instant application.

Priority

2.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which

papers have been placed of record in the file.

Information Disclosure Statement

3.   The information disclosure statements (IDS) submitted on December 11, 2001

and July 15, 2004 are in compliance with the provisions of 37 CFR 1.97. Accordingly,

the information disclosure statements are being considered by the examiner.

Claim Objections

4.   Claims 1-10 are objected to because of the following informalities:

Regarding claim 1, in lines 3 and 4, "a data packet" is provided in each line and it

makes the claim indefinite. In line 5, "said data signal" is lacking antecedent basis. The

following amended version of the claim which overcomes the applied objections is

presented by the Examiner for consideration by the Applicant:

> A method of detecting a selected portion of a data packet, comprising the steps of:
>
> defining a reference signal waveform conforming to an expected waveform representing
>
> a signal modulated in accordance with a selected portion of a data packet;
>
> receiving a data signal containing ~~a data packet with~~ said selected portion;
>
> deriving a waveform representing said ~~data signal~~ <u>selected portion of said data packet</u>;
>
> correlating said reference signal waveform with said waveform representing said ~~data~~
>
> ~~signal~~ <u>selected portion of said data packet</u> to produce a correlation result; and

identifying said selected <u>portion of said data packet</u> in said data signal in accordance with said correlation result.

Regarding claim 2, in line 1, "said data signal" should be replaced by –said selected portion of said data packet--.

Regarding claim 3, in line 2, "said data signal" should be replaced by --said selected portion of said data packet--.

Regarding claim 4, "said selected portion is a preamble of a data packet" should be replaced by –said selected portion of said data packet is a preamble of said data packet--.

Regarding claim 8, in line 2, "said preamble" is lacking antecedent basis.

Regarding claim 9, in line 1, "the six most significant bits" is lacking antecedent basis, and, in line 2, "said preamble" is lacking antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claims 1-4 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Sokoler (US 5907587).

Regarding claim 1, Sokoler discloses a method of detecting a selected portion of a data packet, comprising the steps of: defining a reference signal waveform conforming to an expected waveform representing a signal modulated in accordance with a selected portion (preamble; col. 1, lines 15-25) of a data packet (col. 2, lines 16-18);

receiving a data signal (fig. 1, ref. 11; col. 4, lines 9-10) containing a data packet with

said selected portion (preamble; col. 4, lines 10-18); deriving or quantizing a waveform

representing said data signal (fig. 1, ref. 13; col. 4, lines 10-18); correlating said

reference signal waveform with said waveform representing said data signal or a

predetermined correlation word (fig. 1, ref. 18; col. 4, lines 26-30) to produce a

correlation result (fig. 3); and identifying said selected portion in said data signal in

accordance with said correlation result (col. 6, lines 55-60).

Regarding claim 2, Sokoler discloses the limitations of claim 1 as applied above.

Further, Sokoler discloses the method of claim 1, wherein said waveform representing

said data signal is derived to represent a characteristic of modulation of said data signal

in accordance with data in said data packet (col. 4, lines 10-18). Sokoler discloses that

the received signal is GFSK modulated. That is, data is modulated upon the signal by

varying the frequency of the carrier signal. The quantized waveform representing the

data signal is converted from FM (GFSK) to amplitude signals for correlation according

to the modulation parameters utilized to apply data to the received signal.

Regarding claim 3, Sokoler discloses the limitations of claim 2 as applied above.

Further, Sokoler discloses that said data signal is a frequency-shift keyed signal and

said waveform representing said data signal is derived to represent frequency deviation

of said data signal as a function of time as applied to claim 2 above. The received

signal is Gaussian Frequency Shift Key (GFSK) modulated, and the waveform

representing the data signal modulated upon the received signal is derived according to

the frequency deviations used to modulate data upon the received signal.

Regarding claim 4, Sokoler discloses the limitations of claim 1 as applied above.

Further, Sokoler discloses that the selected portion is a preamble of a data packet (col.

1, lines 62-65; col. 4, lines 13-15; col. 6, lines 55-60).

Regarding claim 10, Sokoler discloses the limitations of claim 1 as applied

above. Further, Sokoler discloses that said data packet is a DECT data packet (col. 1,

lines 15-25).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sokoler in

view of Sriram (US 6331976).

Regarding claim 5, Sokoler discloses the limitations of claim 4 as applied above.

Further, Sokoler discloses that said preamble has a plurality of values or bits which can

correlate with said reference signal waveform (col. 4, lines 30-35; "six data bit periods").

Sokoler does not explicitly disclose that the correlation is including the step of

examining a second part of the data packet to confirm identification of said preamble.

However, Sriram teaches the correlation of the preamble (fig. 3, "PREAMBLE PREFIX)

as well as the synchronization word (fig. 3, "SYNCHRONIZATION WORD) of a received

signal (col. 2. lines 55-60). Sriram further teaches that the synchronization word may be

utilized by the receiver to distinguish the preamble (col. 5, lines 43-45) as well as to

indicate the start of the payload or actual data to be received (col. 5, lines 25-50).

Therefore, it would have been obvious to one having ordinary skill in the art at the time

which the invention was made to correlate both a preamble of a received signal as well

a synchronizing word as taught by Sriram in the detecting method of Sokoler because it

can provide an additional benefit to the detection of the preamble and the identification

of the payload or data of the received signal.

8.   Claims 6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Haartsen (US 6671292) in view of Sokoler.

Regarding claim 6, Haartsen discloses the reception of a Bluetooth data packet

(col. 1, lines 40-45; col. 2, lines 30-35) having a preamble (fig. 2, ref. 210). Haartsen

discloses that the preamble may be utilized for frame and bit synchronization and can

also be used to adjust radio parameters like frequency and phase in the receiver (col. 5,

lines 15-20). Haartsen does not explicitly disclose that the preamble may be detected

according to the limitations of claim 1. However, Sokoler teaches an exemplary

preamble detection method meeting the limitations of claim 1 as applied to claim 1

above. Further, Sokoler teaches that accurate detection of the preamble allows for

accurate sampling of the data in the data packet by finding the center of the data bits

(col. 1, lines 25-35). Therefore, it would have been obvious to one having ordinary skill

in the art at the time which the invention was made to utilize the preamble detection

method of Sokoler to detect the preamble of the Bluetooth data packet of Haartsen

because the remaining data in the data packet could be accurately demodulated and

sampled once bit synchronization according to the preamble is performed.

Regarding claim 8, Haartsen in view of Sokoler disclose the limitations of claim 6 as applied above. Further, Haartsen discloses that a portion of a sync word (fig. 2, refs. 210 and 220) in the data packet (fig. 2) is examined to confirm identification of said preamble (fig. 2, ref. 210).

Regarding claim 9, Haartsen in view of Sokoler disclose the limitations of claim 8 as applied above. Further, Sokoler discloses that the six most significant bits of the sync word are examined to confirm identification of said preamble (col. 4, lines 30-33).

Allowable Subject Matter

9. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and amended to overcome the claim objections above.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art of record not relied upon above is cited to further show the state of the art with respect to preamble detectors.

U.S. Pat. No. 5434905 to Maeda et al.

U.S. Pat. No. 6111927 to Sokoler.

U.S. Pat. No. 6480559 to Dabak.

U.S. Pub. No. 2002/0067784 to Bowler.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (571) 272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Jason M. Perilla
March 5, 2005

jmp

CHIEH M. FAN
PRIMARY EXAMINER